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ABSTRACT

The "open-door" policy, educational opportunity programs, and financial aid to high-risk students are implicit promises that the community college will provide successful learning experiences for all students. Within this framework of concerns and promises, the Milwaukee Area Technical College designed and offered a developmental program during most of the 1960s. In 1970, the Crossover Program was instituted to remedy felt deficiencies with the developmental program. The Crossover Program is a pretechnical and prevocational program, designed for students who do not meet the normal admission requirements. The Crossover Program provides high-risk students with the basic skills needed for college, provides career counseling to high-risk students, and helps to develop attitudes, study skills, and survival techniques needed to succeed in a college-level program. Crossover consists of three program areas: general, health, and technical. Seventh-grade reading ability is required for Crossover-General; students below seventh-grade level are referred to adult basic education classes for basic skill improvement. Ninth-grade reading level is required for health and technical programs; those with lower scores are referred to Crossover-General. A special curriculum is maintained for Crossover students; students must complete 12 credits with a C average or better. Crossover is one of the largest instructional programs within the school, having grown from an enrollment of 68 in 1970 to 1,251 in 1984. The Crossover Program has been successful in stemming attrition and in helping students succeed in college. (KC)

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MILWAUKEE AREA TECHNICAL COLLEGE

CROSSOVER PROGRAM

A FIVE-YEAR REVIEW

Submitted by: Frank Samuels

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MILWAUKEE AREA TECHNICAL COLLEGE

CROSSOVER PROGRAM

A FIVE-YEAR REVIEW

Introduction

One of the outcomes of the fiscal crisis now affecting post-secondary education is a renewed concern with access and academic standards. This concern impacts heavily on community colleges. Expanding access has been one of the founding concepts of the community college. Increasing opportunities for new client populations has been signally successful. However, there is a feeling in significant quarters that the access revolution has been a major factor leading to the decline of academic standards. The community college's attempt to maintain quality and standards while fulfilling an open-door mission has created a quandary in its educational practice.

One outgrowth of the alarm concerning the decline of standards is a strong emphasis today on admissions criteria. The criteria for admission to colleges and universities has traditionally been related to a person's likelihood for academic success. During the 1960's many post-secondary institutions in addressing the legal and social imperatives for equity and access eliminated their admissions criteria. This "open door" policy frequently resulted in large numbers of students failing or withdrawing after a short time; particularly those students with inadequate high school

preparation. Some institutions diluted the content of their courses, a practice which called into question the quality of the credentials earned. The majority of institutions, however, modified their admissions policies and provided supportive courses such as counseling, tutoring and financial aid. Programs providing these services are usually subsumed under the label of educational opportunity programs because the programs attempt to provide an opportunity for education to a person who would have been normally denied admission to the college.

The "open door" policy, educational opportunity programs and financial aid to high risk students are implicit promises that the community college will provide successful learning experiences for all students. It is within this framework of concerns and promises that the Milwaukee Area Technical College designed and offered a developmental program during most of the 1960's.

The Crossover Program was instituted in 1970 in response to a felt need within the Institution to address a number of structural and procedural deficiencies within the then existing developmental program. The separate and distinct format of the developmental program labeled and stigmatized its student population as low achievers. In addition, it produced problems of poor academic motivation, high attrition rates and low teacher morale. Evaluational studies of the program also indicated that students experienced difficulty making the transition from the developmental to other academic programs within the Institution. Studies of developmental programs have shown that the most successful programs

were institutionalized into the academic mainstream rather than isolated within a separate remedial component. It was out of this concern with quality and effectiveness that the Crossover Program emerged.

The Crossover Program

Crossover is one of the largest instructional programs within the school, having grown from a low enrollment of 68 in 1970 to 1,251 in 1984. These numbers reflect the current reality in higher education. The erosion of basic skills competency is epidemic. Over 40% of entering students are in need of remediation. The Crossover Program is viewed by the school as the mid-point of an educational career line, bracketed by adult basic education at one end and other occupational and academic programs on the other. The Crossover format integrates remediation and developmental activities with occupational programs and utilizes materials related to career preparation. The Program proceeds from the assumption that any student can succeed if he or she is provided with tutorial assistance, access to learning labs, special counseling and peer group assistance.

Description of the Program

The Crossover Program is a pre-technical and pre-vocational program. It is designed for students who do not meet the normal admission requirements. It is estimated that over 75% of the applicants come from those who do not meet the Institution's minimum scholastic requirements. The remaining 25% are referrals from high

school couselors, present and former students of the Program and community groups and agencies.

The Program places strong emphasis on treating those students who graduated in the lower 40% of their graduating class, those who have obtained a General Education Development Certificate (GED) with minimum scores and those students who are returning to school after a period of several years with skill deficiencies or those who need refresher courses in the basic skills of English, mathematics and reading.

The objectives of the Crossover Program are as follows:

1. To provide high risk students with the basic skills needed to be successful in a college level program;

2. To provide career counseling to high risk students so that they may choose a realistic program of study when they leave the Crossover Program; and

3. To develop attitudes, study skills and survival techniques needed to succeed in a college level program.

Program Structure

Crossover consists of three program areas: The (1) General; (2) Health; and (3) Technical areas.

(1) General - Students within this program are undecided as to career goals. In addition, their high school performance and basic skill level indicates possible academic problems within the associate degree programs. Developmental course work and counseling help the student become better prepared to relate their level of performance to career goals.

(2) Health - This student population seeks to complete the qualifications required to apply for a health occupations program. Within this component, students seek to improve skill levels in mathematics, reading and natural science and to take certain required courses so that they may carry a reduced course load when they are admitted to one of the health occupation programs.

(3) Technical - This program enables students to take courses which will improve their skill levels in mathematics, reading, technical writing and natural science (basic physics and basic chemistry) in order to gain entrance to technical programs.

Seventh grade reading ability, as measured by the Nelson-Denny reading test, is required for admission to Crossover-General; applicants scoring below 7th grade are referred to Adult Basic Education classes for basic skill improvement. Ninth grade reading ability, as measured by the Nelson-Denny reading test and math proficiency, as measured by the Milwaukee Area Technical College math test, are required for both the Crossover Health and Technical curricula. Applicants with scores below those required for the Health and Technical program are referred to the General curriculum.

THE CROSSOVER CURRICULUM

General Education

First Semester

Communication Skills 1 (8-01 151); or
Basic Writing Skills (8-01 191)
Reading and Study Techniques 1 (8-08 191); or
Reading and Study Techniques 2 (8-08 192)
Math Workshop (8-04 190); or
Beginning Algebra (8-04 191)
The American Economy (8-09 110); or
Psychology of Human Relations (8-09 151) or
American Institutions (8-09 153)

Pre-Health

First Semester

Communication Skills 1 (8-01 151)
Elements of Beginning Algebra (8-04 191)
Reading and Study Techniques 2 (8-08 192)
General Biology (8-06 136)
Basic Chemistry (8-06 110)
Orientation

Second Semester

Communication Skills 2 (8-01 152)
Introductory Biochemistry (8-06 111)
Anathomy and Physiology (8-06 103)
Elective

Technical

First Semester

Communication Skills 1 (8-01 151)
Reading and Study Techniques 2 (8-08 192)
Basic Physics 1 (8-06 191)
Beginning Algebra (8-04 191)
Technical Math 1 (8-04 151)
Orientation

Second Semester

Communication Skills 2 (8-01 151)
Basic Physics 2 (8-06 192)
Calculators and Calculating Devices (8-04 192)
Social Science Requirement

Requirements for Successful Completion of the Crossover Program

1. A student must complete all 12 credits with a "C" average or better.

2. A student failing to complete 12 credits or completes 12 credits but does not have a "C" average or better must remain a second semester with Crossover or enter a non-college level program.

3. A student remaining a second semester in the Crossover Program and completing all 12 credits with "C" average or better may enter a college level program.

Admissions

The primary function of the admission component is to pre-screen the applicants and make the initial recommendation for admission or refusal. The applicant does not have to meet a rigid set of criteria in order to gain entry to the Crossover Program. However, testing and correct placement are an integral part of the Program. Neither the A.C.T. test nor the S.A.T. test are administered to evaluate the student's skill level. The College discontinued use of the tests after the first year of the Program as part of the criteria for admission. The admissions staff decided that scores on standardized examinations were not good predictors of success for high-risk students. The admissions staff evaluates the student's skill level and motivation for successfully completing college work based on information contained in the student's file and personal interviews. The student's skill level is based on performance on the reading, arithmetic and English sections of the California Achievement Test and the student's high school grades. Motivation is not objectively measured but is subjectively evaluated during interviews. After the student is admitted, he or she is assigned to an academic advisor. The admissions staff is also responsible for conducting a special registration for Crossover students so that these incoming students are not permanently turned off by the many frustrations which are typical of the registration process.

The role of the advisor is to suggest courses, provide assistance in dealing with the Institution's administrative procedures,

make referrals for skill development and assist with any other problems which might deflect the student from succesful completion of course work. The advisor is responsible for monitoring the student's progress so that those who are in academic difficulties can be identified before the failing process is significantly advanced.

Testing and Placement

One of the most sensitive problems confronted by designers of developmental programs is that of testing and placement. If cut-off scores are too high, the basic skills program will be overloaded and testing becomes a discriminating screening mechanism which excludes otherwise competent students from entering their program of choice. If cut-off scores are too low, students requiring remediation may enter academic programs without the requisite competencies and will account for a large fraction of the school's academic failures. However, an effective and conscientious program of assessing student abilities and learning ensures that appropriate instructional experiences can be provided. In the Crossover Program, course standards are maintained by assigning students to courses only where the diagnostic process has indicated appropriate readiness.

In the Crossover Program, newly admitted students are tested to determine their entering levels of competency for purposes of counseling and placement. These initial scores are useful, not only in providing information about a student's specific strengths

and weaknesses but also in establishing a baseline against which to measure his or her later progress. There are math, reading and communications skills tests:

Mathematics - The MATC Mathematics Placement Test is given before students are enrolled in any mathematics class for the first time. The test is given in the school's Testing Center and individuals are placed accordingly.

Reading - Students interested in improving their reading and study skills enroll in one of the following three reading courses: 8-08 191 - Essentials of Reading; 8-08 192 - Reading and Study Techniques; or 8-08 102 - Advanced Reading and Study Skills. In the absence of schoolwide testing and placement, all students enrolled in the above courses are given the Advanced California Reading Test. Students reading at the 7th or 8th grade level are assigned (or reassigned) to Reading 191. Students who have completed Reading 191 or who test out at the 9th or 10th grade level are assigned (or reassigned) to Reading 192. Students at the 11th grade level or above are assigned (or reassigned) to Reading 102. Students with scores below the 7th grade reading level are assigned to basic education (see Appendix A for Crossover Course Descriptions).

Written Expression

Members of the English Department working with teachers from the Milwaukee Public Schools developed a procedure for assessing writing competencies. This articulation committee developed a system of scoring writing samples based on an evaluation of Primary

Traits (organization, development) and Secondary Traits (grammar, mechanics). This system is used to place students in either a basic writing or beginning communication skills course. If the theme has a stated or implied thesis, establishes two or more bases of comparison, but does not necessarily develop these bases, and if the theme has fewer than seven errors (not including spelling errors), the student is placed in a communication skills course - English 151. If the theme lacks a stated or implied thesis, lacks a minimum of two bases of comparison or lacks development, and if the theme has eight or more usage errors, the student is placed in a basic writing course - English 191.

Instruction

The Crossover Program does not have a separate instructional staff. The courses within the Program are taught by the faculty of the General Education Division. The Program consists of an array of sequenced courses in reading, communication skills, mathematics and natural and social sciences. Instructional rigor is maintained throughout the Program. Courses are continually being redesigned to meet the needs of the student population. The class sizes in the Crossover Program are smaller than regular classes with a strong emphasis on individualized instruction. The instructors meet on a regular basis to discuss instructional issues and the progress of students who are enrolled in the Program. Frequent contact is also made with advisors to identify problems which may be affecting a student's performance. Frequent in-service

training sessions on the under-prepared student have created within the General Education Division a corp of dedicated and creative faculty, fully attuned to the varieties of learning styles and the rich potential which the under-prepared student brings to the Institution.

Basic Skills Curriculum

A student reading below the 7th grade level would either be placed in an Adult Basic Education Workshop or assigned the following package of courses in his/her first semester at the College.

	Course	Equated Credit
8-13 451 (452, 453)	Basic Arithmetic	2.25
8-13 461 (462, 463)	Basic English	2.25
8-13 471 (472, 473)	Basic Reading	2.25
8-13 483	Basic Social Science	.90

The basic academic skills of reading, writing and arithmetic are taught on three levels which roughtly approximate the grade levels indicated.

Level 1 (Grades 1 and 2) - 8-13 451, 8-13 461 and 8-13 471

Level 2 (Grades 3, 4 and 5) - 8-13 452, 8-13 462 and 8-13 472

Level 3 (Grades 6, 7 and 8) - 8-13 453, 8-13 463, 8-13 473 and 8-13 483

The length of time necessary to complete a course varies with each student's educational background, motivation and natural ability. Therefore, the equated credits are indicative only.

The student is encouraged to spend additional time in the tutorial center, the communications skills center or reading workshop for additional work.

There are 14 distinct courses in the Instituion's Basic Skills Program. As indicated above, students receive mandatory assignments in packages of courses that are based on individual prescriptions determined by their diagnostic tests.

	Course	Equated Credit
8-13 440	Adult Basic Education Workshop	20
8-13 441	Basic Education Skills 1	9
8-13 442	Basic Education Skills 2	9
8-13 443	Basic Education Skills 3	9
8-13 451	Basic Arithmetic	2.25
8-13 452	Basic Arithmetic 2	2.25
8-13 453	Basic Arithmetic 3	2.25
8-13 461	Basic English 1	2.25
8-13 462	Basic English 2	2.25
8-13 463	Basic English 3	2.25
8-13 471	Basic Reading 1	2.25
8-13 472	Basic Reading 2	2.25
8-13 473	Basic Reading 3	2.25
8-13 483	Basic Social Science	2.25

An Analysis of the General Crossover Program (1979-83)

Profile of Student Characteristics

TABLE 1

PROGRAM YEAR BY RACE

YEAR	RACE					
	Black	White	Spanish	Nat. Amer.	Oriental	Total
1979	123 (65%)	57 (30%)	6 (3%)	2 (1%)	0	188 (100%)
1980	293 (74%)	75 (19%)	16 (4%)	12 (3%)	0	396 (100%)
1981	327 (71%)	87 (19%)	32 (7%)	14 (3%)	5 (1%)	465 (100%)
1982	331 (70%)	92 (20%)	30 (6%)	14 (3%)	5 (1%)	472 (100%)
1983	298 (67%)	116 (26%)	14 (3%)	13 (3%)	4 (1%)	445 (100%)

From 1979 to 1980 enrollment in the General Crossover Program showed a dramatic increase. Students within the program more than doubled, moving from 188 to 396. This enrollment trend continued through 1982. In 1981 enrollment increased by 69 students and in 1982 by 27 students. In 1983 that gain was erased when enrollment declined by 27 students.

Blacks accounted for the highest ethnic group enrollment within the General Crossover Program, varying from 65% in 1979 to 74% in 1980. Blacks are over-represented within the Program. In 1982 19.7% of the school's day enrollment were black, while blacks contributed 70% to the Program's enrollment. A similar situation obtained in 1983, where blacks accounted for 22% of the school's day enrollment and 67% of the Program's enrollment.

The enrollment of whites within the Program varied from a low of 19% in 1980 and 1981 to a high of 30% in 1979. Whites constituted 75% of the school's day enrollment in 1982 and 20% of the Program's enrollment. In 1983 this statistic was 74% and 26% respectively. Spanish speaking students had a low enrollment of 3% in 1979 and a high of 7% in 1981. Native American enrollment has remained stable at 3% from 1980-83, while oriental students entered the Program in 1981, their enrollment through 1983 were five, five and four respectively.

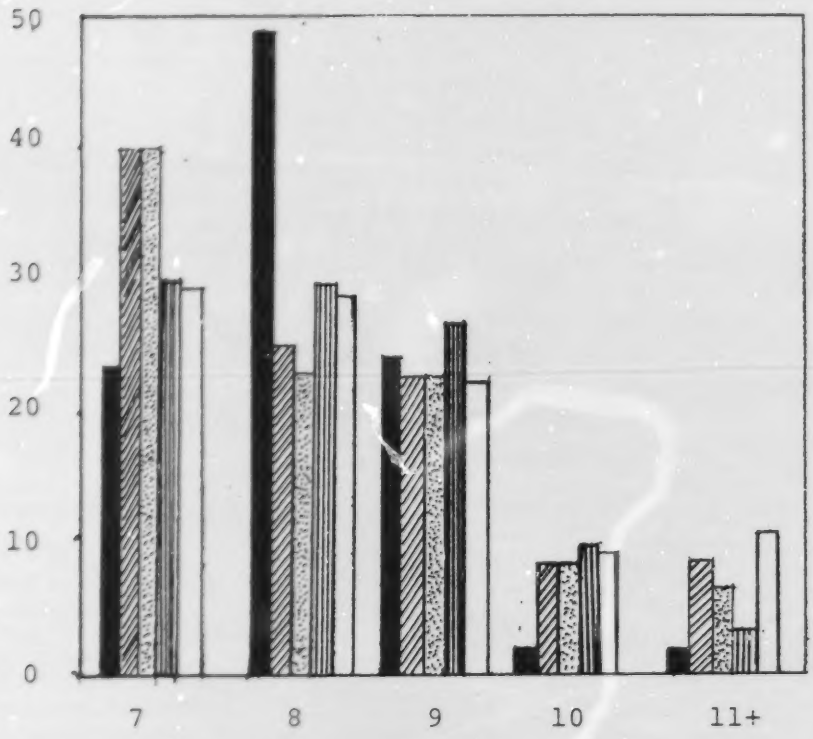
TABLE II
PROGRAM YEAR BY AVERAGE AGE

YEAR	AGE
1979	23.8
1980	24.4
1981	23.5
1982	23.2
1983	23.9

The average age for students in the Crossover General Program has not varied significantly in the five-year period ending in 1983. The oldest group of students was in 1980 when the average was 24.4 years. The school is drawing from a more mature population of students. The median age for the school's population in 1982 was 26.8 and 27.3 in 1983. The maturity of the Program enrollees argue for a different learning environment and teaching methodology than that which is appropriate for younger age cohorts.

TABLE III

PROGRAM YEAR BY READING SCORES



Graph A - 1979

Graph B - 1980

Graph C - 1981

Graph D - 1982

Graph E - 1983

In 1979, the modal reading score was the 8th grade, 48% of the students were represented within that category, 25% of the students were at the 7th grade or below, while 27% of the students were at the 9th grade reading level or above.

In 1980, there was a decline in reading scores. The modal score was 7th grade, representing 31% of the students, 9% were below the 7th grade, 24% were at the 8th grade and 23% at the 9th grade, while 14% of the students were reading at the 10th grade or above. Whereas in 1979, 76% of the students were reading at the 8th grade or above, in 1980, only 61% of the students in the program were doing so.

The modal score in 1981, was the 8th grade, representing 40% of the students, 24% were reading at the 8th grade and a similar number at the 9th grade. In 1982, 70% were reading at the 8th grade or above, and in 1983, there was a small increase to 72%.

In the five years under review, there were no dramatic fluctuations in reading scores. During the various program years, the majority of the students were concentrated in either the 7th or 8th grade reading levels.

Student Attrition and Retention

Statistical data relating to student attrition is notoriously imprecise. Raw figures carry as "dropouts" students who transfer to other institutions, others who "stop out", others who attend on an intermittent basis, and others who had limited personal objectives.

From the student development perspective, retention and attrition must be related to the achievement of immediate and long range goals of the affected students. Given the present enrollment decline, many institutions study this problem solely with the goal of increasing enrollment and maximizing tuition revenues. Nevertheless, because considerable wastage is involved in attrition, retention is certainly one valid measure of the success of a developmental program. Students cannot benefit from the collegiate experience, if they have already departed the institution. The data shows that in 1979, 85% of the Crossover students completed the program.

TABLE IV

A COMPARISON OF 1977 CROSSOVER STUDENTS AND NON-CROSSOVER STUDENTS

Students	Percent in School Spring, 1980	Mean Cumulative G.P.A.
Crossover	39%	2.37
Non-Crossover	26%	2.90

A follow-up study in Spring, 1980 of the students who completed the full 1977 Crossover Program indicated that 39% of the students had either graduated or were still in school, compared to 26% of the Non-Crossover students, who entered in the Spring of 1978. Crossover students had a Mean Cumulative G.P.A. of 2.37, compared to 2.90 for the Non-Crossover students.

A review of the students who completed the Fall 1981 Crossover Program demonstrated that Crossover students had higher retention rates than their Non-Crossover counterparts and that they were succeeding in academic and technical programs.

TABLE V

A COMPARISON OF FALL 1981 CROSSOVER STUDENTS AND NON-CROSSOVER STUDENTS

Students	Percent in School Spring, 1984	Mean Cumulative G.P.A
Crossover	38%	2.31
Non-Crossover	27	2.88

The data indicated that 38% of the students who entered the Crossover Program in Fall, 1981 had either graduated or were still in school, compared to 27% of the non-Crossover students. The Crossover students had a mean cumulative G.P.A. of 2.31 compared to 2.88 for non-Crossover students.

TABLE VI

ATTRITION RATE BY RACE
1980

Race	Number in Program	Number Who Dropped	Attrition Rate
Black	293	44	15%
White	73	17	23
Spanish	16	5	31
Nat. Amer.	12	2	17
Oriental	0	0	0
TOTALS	394	68	

Blacks had the lowest attrition rate of all the ethnic groups in 1980. They showed an attrition rate of 15% compared to 23% for whites and 31% for Spanish speaking students.

TABLE VII

ATTRITION RATE BY RACE

1981

Race	Number in Program	Number Who Dropped	Attrition Rate
Black	327	76	23%
White	87	20	23
Spanish	32	9	28
Nat. Amer.	14	5	36
Oriental	5	0	0
TOTALS	465	110	

In 1981 the highest attrition rate was recorded for Spanish speaking and Native American students. The records showed that 28% of the Spanish speaking students and 36% of the Native American students did not persist in the Program. The attrition rate for both blacks and whites was 23%.

TABLE VIII

ATTRITION RATE BY RACE

1982

Race	Number in Program	Number Who Dropped	Attrition Rate
Black	331	64	19%
White	92	18	19
Spanish	30	9	30
Nat. Amer.	14	4	28
Oriental	5	0	0
TOTALS	472	95	

In 1982 the attrition rate for both blacks and whites was 19%. The attrition rate for Spanish speaking students was 30% and 78% for Native American.

TABLE IX

ATTRITION RATE BY RACE

1983

Race	Number in Program	Number Who Dropped	Attrition Rate
Black	298	77	26%
White	116	24	21
Spanish	14	3	22
Nat. Amer.	13	4	31
Oriental	4	0	0
TOTALS	445	108	

In 1983 blacks, whites and Native American students showed an increase in attrition rates. Spanish speaking students showed a slight decrease in attrition rates.

The data did not allow comparisons to be drawn between persisting and non-persisting students. In the future the evaluational instrument or data gathering devises should provide for the identification and defining of persisting, non-persisting, transfer, stop-out and drop-out students as well as demographic data associated with each group in order to generate an adequate body of specific data about these groups of students. This might facilitate a profiling of the typical drop-out and would allow for more intrusive counseling and intervention strategies.

Selected Follow-Up Studies of Students in the Health, General and Technical Program Areas

Crossover Health - This study was performed on 27 students who completed the Crossover Health program and entered the Associate Degree Nursing program. The results are compared with 72 non-Crossover students who also entered the Associate Degree Nursing program. This study is compared with a study done in 1977. These are grades of students who completed the courses. Not all students took Natural Science 156.

TABLE X

THE MEAN GRADE POINT AVERAGE
OF STUDENT PERFORMANCE IN SELECTED COURSES
1981 FOLLOW-UP STUDY

Courses	Crossover Mean	Non-Crossover Mean
Introduction to the Nursing Process (Nu 172)	2.06	2.57
Early and Middle Adults (Nu 174)	2.86	2.94
Chemistry (Nat Sci 156)	2.11	2.00

TABLE XI

THE MEAN GRADE POINT AVERAGE OF
STUDENT PERFORMANCE IN SELECTED COURSES
1977 FOLLOW UP STUDY

Courses	Crossover Mean	Non-Crossover Mean
Introduction to the Nursing Process (Nu 172)	2.79	2.96
Early and Middle Adults (Nu 174)	2.43	2.74
Chemistry (Nat Sci 156)	1.65	2.32

The study indicated that Crossover students from the pre-health program were performing at a satisfactory level. Students in the 1981 study did not do as well in Nursing 172 but did better in Nursing 174 and Natural Science 156 than the Crossover-Health students in the 1977 study. Changes were made in the chemistry curriculum in the Crossover-Health program and a positive effect was noticed.

The major difficulty experienced by students in Nursing 172 was lack of math skills. Based upon the study results, the Crossover Health program was modified to ameliorate the problem.

Crossover - General

This study was performed on 74 students who completed the Crossover-General program and entered the Business Division in the fall semester of 1977. The performance of these students was compared with 94 non-Crossover students who also entered the Business Division in the fall semester of 1977.

I. PERCENT OF STUDENTS WHO REMAINED AFTER ONE YEAR IN THE BUSINESS DIVISION.

Crossover - - - - - - - - - - - - 72% (53 of 74)

Non-Crossover - - - - - - - - - - 51% (48 of 94)

II. PERCENT OF STUDENTS WHO GRADUATED OR WERE STILL ATTENDING SCHOOL AS OF MAY, 1980

Crossover - - - - - - - - - - - - 39% (29 of 74)

Non-Crossover - - - - - - - - - - 26% (24 of 94)

III. MEAN CUMULATIVE GRADE POINT AVERAGE OF STUDENTS WHO HAVE GRADUATED OR ARE STILL ATTENDING SCHOOL

Crossover - - - - - - - - - - - - 2.37

Non-Crossover - - - - - - - - - - 2.90

There was a significant difference in the mean cumulative grade point average of Crossover and non-Crossover students. However, Crossover students were found to be performing at a satisfactory level.

Crossover - Technical

The percentage of students who completed the 1979-80 Pre-Technical Crossover Program and who were still in an associate degree technical program in the Spring of 1982 were compared to non-Crossover students in similar programs who entered MATC in Fall of 1980.

PERCENTAGE OF CROSSOVER STUDENTS ATTENDING IN SPRING OF 1982	48%
PERCENTAGE OF NON-CROSSOVER STUDENTS ATTENDING IN SPRING OF 1982	42%

A second study reviewed the graduates of the 1981-82 program and found comparable statistics.

PERCENTAGE OF CROSSOVER STUDENTS ATTENDING IN SPRING OF 1984	49%
PERCENTAGE OF NON-CROSSOVER STUDENTS ATTENDING IN SPRING OF 1984	44%

Two years later both the 1979-80 and 1981-82 Crossover-Technical students were demonstrating higher persistance rates than their non-Crossover counterparts.

The figures in the preceeding studies support the thesis articulated earlier that developmental students can perform at acceptable levels if placed in the proper instructional environment and provided with adequate support services.

An Examination of the Entrance Requirements of the Crossover Program

This study was initiated to check the validity of using the entering test scores in reading and mathematics of students in the Crossover Program as a predictor of academic success. Academic success is defined as having a 2.00 semester grade point average.

The 216 students chosen for this study had 7th to 9th grade reading levels and scored from 0-20 on the math test. These levels were chosen because the students with these scores are programmed into the same courses. The reading and mathematics entering test score levels of the students were compared with their mean semester grade point averages to see if a correlation exists.

TABLE XII

THE CORRELATION OF
READING GRADE LEVEL TO MEAN GPA

Reading Grade Level	Mean GPA
7th	1.62
8th	1.62
9th	1.78
Correlation Coefficient	-0.11

TABLE XIII

THE CORRELATION OF
MATH SCORE TO MEAN GPA

Raw Score	Mean GPA
0 - 5	1.48
6 - 10	1.58
11 - 15	2.01
16 - 20	2.03
Correlation Coefficient	0.35

A second study was performed relating the entering test score levels with the number of students who dropped the program. The percent of students who dropped the program in Fall, 1983 equals 25% or 108 students.

TABLE XIV

PERCENT OF STUDENTS WHO DROPPED
WITH EACH READING GRADE LEVEL:

RGL	Percent
7th	27%
8th	33
9th	31
Above 9th	9

TABLE XV

PERCENT OF STUDENTS WHO
DROPPED WITH EACH MATH LEVEL

Raw Score	Percent	
0 - 5	28%	66%
6 - 10	38	
11 - 15	27	34%
16 - 20	7	
Above 20	0	

A third study was made of the percent of students who would be placed correctly in the Crossover Program using different levels of the entering math test scores as an entrance requirement. The math test scores are used because of the positive correlation between the scores and the semester grade point averages of the students.

A successful placement is defined as correctly predicting a student will be successful or unsuccessful (based on 2.0 GPA) given a certain entering math score.

Three cut off points are examined.

Option 1 - The number of students placed correctly using an entering math test score of 5 as an entrance requirement.

TABLE XVI

	Reject Below 5	Accept Above 5
2.0 or Better	N=9 (14%) Error	N=68 (31%) Correct
Less than 2.0 (Includes Drops)	N=36 (17%) Correct	N=103 (48%) Error

The total percent of correct placements when a cut off of five is used equals 48%.

Option 2 - The number of students placed correctly using an entering math test score of 10 as an entrance requirement.

TABLE XVII

	Reject Below 10	Accept Above 10
2.0 or Better	N=28 (13%) Error	N=49 (23%) Correct
Less than 2.0 (Includes Drops)	N=88 (41%) Correct	N=51 (24%) Error

The total percent of correct placements when a cut off of 10 is used equals 64%.

Option 3 - The number of students placed correctly using an entering math test score of 15 as an entrance requirement.

TABLE XVIII

	Reject Below 15	Accept Above 15
2.0 or Better	N=58 (27%) Error	N=19 (9%) Correct
Less than 2.0 (Includes Drops)	N=120 (56%) Correct	N=19 (9%) Error

The total percent of correct placements when a cut off of 15 is used equals 65%.

The total number of correct placements with the present system of not using a math score cut off equals 36%. The results are tabulated in Table XIX.

TABLE XIX

CUT OFF SCORE	CORRECT PLACEMENT
None	36%
5	48
10	64
15	65

The study indicated that using an entering math score of 10 as an entrance requirement would give the optimum number of correct placements in the Crossover Program.

Recommendations

The five-year review and the study of entrance requirements suggested that although the Crossover Program was remarkably successful, many students were falling between the cracks of their native ability and deficient schooling. The review process disclosed that there was no placement process effective enough to identify reliably the student who needed instruction in basic skills. In terms of institutional philosophy, there was an imbalance of emphasis on access to the institution with inadequate attention paid to the financial, human and instructional resources necessary to secure appropriate student accomplishment.

In response to this finding, the institution assembled a committee in the Summer of 1984 with the objective of examining all basic skills and remedial instruction at the institution and to make recommendations regarding the amelioration of all perceived deficiencies. The committee recommended a system wide testing and placement program to attain the following objectives:

1. Improve the overall quality of instruction and the quality of the student;

2. Increase student retention in occupational programs;

3. Increase graduation rates for occupational programs;

4. Increase the ability for the college to serve the specific needs of students in basic skills and remediation instruction;

5. Improve academic standards and student progress in programs by minimizing the number of "misplaced" students; i.e., students who are expected to fail;

6. Develop a faculty and staff who can respond to changing student needs through improved counseling and advisement;

7. Increase the job placement for students through enhanced training, counseling and academic progress;

8. Develop a basic skills and remediation support system which maximizes faculty, staff and facility utilization;

9. Improve teaching/learning conditions by eliminating wide variances in student competencies;

10. Attain increased articulation with occupational advisory committees for program improvement;

11. Provide high potential success students with greater admission access to our occupational programs;

12. Provide adults in the community who have basic skill deficiencies an opportunity to acquire marketable job skills.

A comprehensive entrance requirement plan can be organized in three distinct sections. These are: Planning Implications; Program Structure; and Implementation Sequence.

Planning Implications

1. Financial Aids: Based upon the models developed at other educational institutions, financial aids are a prime motivation for entry and retention of students enrolled in courses or programs at

less than the associate degree and in some adult vocational courses. At the present time MATC does not provide financial aid for students in adult basic education and some related basic skills. In order to provide financial aid for these students, MATC would need to create an institutional credit category for reporting to the State Board of VTAE. This institutional credit would not be considered at the same level as Associate Degree or adult Vocational equated credit but would be used for developing aid formulas for students attending basic skills or specified remedial courses. Such credit would need approval by the State Board and would need to be integrated with the credit formulas presently used throughout the college. The credit granted for courses in the basic skills program would be based on the same credit formula developed according to the Educational Services Policies and Procedures utilized for Associate Degree and Adult Vocational credit.

2. Instruction: Preliminary testing data indicates that the adult vocational and the associate degree incoming students will result in approximately 25% being referred to basic skills and remedial instruction. At the present time the ABE programs have substantial waiting lists and the associate degree Crossover Program has become a heavily utilized remedial option for remedial instruction. According to recent statistics collected, approximately 9,000 basic skills and remedial students are enrolled. This includes adult basic education, basic education and GED, TV High School, Adult High School and the Associate Degree and developmental programs. This represents

nearly the instructional saturation point for providing combined remedial and basic skills instruction utilizing present staff, faculty and facilities. The projected estimate of 25% increase in the number of students to be referred to these programs may add an additional 800-1,000 students per cycle to be served by basic skills instruction.

3. Faculty: The method of instructionally servicing the additional students generated through competency testing could be accomplished through two options. The first of these would increase the number of part time faculty who are trained or are willing to be trained in teaching remedial and basic skills classes. The number of part time faculty would increase dramatically and since the financial impact of utilizing part time faculty is substantially lower than regular faculty, costs for implementing the program would in this manner be closely controlled.

The other alternative is the retraining and/or reassignment of regular staff to remedial and basic skills instruction. The second option may be accomplished through the combining of faculty displaced by discontinued or reduced programs or reassignment of faculty and staff from currently existing basic skills/remedial classes or programs. This could result in a decline in the number of part time faculty required.

4. Students: The need for creative and innovative approaches to basic skills instruction at MATC is compelling because a significant fraction of entering students are deficient in the basic skills of reading, writing and mathematics. This is a contributing

factor why over one-third of MATC students have inadequate learning experiences which result in a comparatively high attrition rate. Furthermore, higher entry level skills are being demanded of students in programs with high technology components. In addition, the majority of associate degree students are enrolled in a program simply by presenting a high school credential showing a "C" average and may not possess the needed skills in mathematics, reading and writing. Also some students experience difficulty with applying appropriate or complete information during the admission cycle.

5. Protected/Special Students: MATC serves a substantial student population who are handicapped, either physically, emotionally or mentally. These students require enhanced or unique services in order to function effectively in an educational setting. Many can be mainstreamed after orientation or training in coping and survival skills. Others need to be prepared for occupational skills which allow them to enter the work force quickly and effectively. In some cases, standard entrance requirements may exclude these students from consideration for some occupational programs. In other cases, physical handicaps may prevent students, who possess sufficient academic ability, from engaging in certain occupational choices.

6. Community, Faculty, Staff and Student Orientation: A comprehensive and sensitive program for delivering an awareness of the need for restructuring instruction through entrance requirements is an essential element in planning. This is particularly

true for those groups most affected by entrance testing. An aggressive plan to develop awareness would include the utilization of the traditional media such as local newspapers, radio and television in addition to a close articulation effort with local school boards, community based counseling centers and with other occupational training centers. This orientation should center on establishing the need for a testing procedure which will result in increased retention and graduation and placement of students. This orientation should occur well in advance of the implementation of the basic skills program.

Program Structure

Background - As stated elsewhere, at the Milwaukee Area Technical College, as in community colleges throughout the country, the policy of open admissions is a basic premise of its mission. Recently, however, the policy as it has been implemented and practiced is being seriously reexamined. One of the essential purposes of an open admissions policy is to give individuals who are denied admission elsewhere a chance to further their education. Inherent with an open admissions policy is the obligation to provide intensive guidance and counseling in terms of helping students select a program appropriate to the skills they bring. Moreover, it is important to students that they succeed in their initial entry in a college program. Lastly, the success of a competency testing program will, to a great extent, be determined by the quality of skill-building programs developed and administered by the instructional arm of the college.

This new focus establishes measurable standards, exit criteria and monitoring procedures. The program structure includes three major components with an instructional support system. These three major components are:

1. An admission/assessment phase;
2. An advisement/counseling phase;
3. Competency monitoring phase.

Furthermore, the instructional support system includes;

1. An Academic Alert Support System;
2. A Supplemental Educational Services System;
3. A Standards of Academic Progress System;
4. A Graduation/Requirement Information System.

The program structure is best illustrated through examination of the implementation sequence that follows.

Implementation Sequence

Background - Implementing an entrance requirements program has many far reaching and significant effects on an open admission philosophy. It is essential that the plan emphasize the need to proceed cautiously and thoughtfully. The alternative is to court failure. The faculty, staff, students and the community must be prepared for the changes that will inevitably occur and also be prepared to accept the fact that as an outgrowth of this policy, MATC may not, in the future, be able or willing to serve some students.

Also, implementation must be coordinated with appropriate modification of the management information system since effective computer based management of student academic status and progress is essential.

The implementation of the entrance requirements program may be accomplished in three phases. The activities to take place during the first phase include:

Recommended Implementation Sequence

1. Develop raw test scores in both Adult-Vocational and Associate Degree programs to establish reading, writing and mathematics levels.

2. Determine entrance requirements and equivalent test scores.

3. Develop student grade point average (GPA) and competency test score correlations for testing validation.

4. Construct an advisement and counseling support system for both entry level students and students referred from academic programs. This may require the use of faculty in a widely expanded advisor role.

5. Construct the management information system (MIS) and the minimum entrance requirement program to allow for interactive information sharing.

6. Evaluate the first year entrance requirement standards and student academic progress.

7. Identify or create courses to provide basic skills and/or remediation and integrate these courses with the MATC active course file with an appropriate number and aid code assignment.

8. Assign institutional credit to those courses which do not qualify the student for financial aid based upon current credit granting formulas.

9. Revise and simplify the admissions application and procedure.

10. Develop a model for conducting competency testing of diploma and associate degree students.

11. Conduct a competency testing program which will make results available shortly after completion of testing.

12. Develop a standard of entrance requirements appropriate and applicable to students who are to be trained as the Educable Mentally Retarded (EMR) or the Learning Disabled (LD).

The activities to take place during the second phase include:

Phase II

1. Develop community, faculty, staff and student orientation regarding the need for entrance requirements and the expectations and outcomes anticipated.

2. Construct and/or remodel facilities districtwide as required for implementation of the program.

3. Construct and operate the comprehensive Reading/Communication and Mathematics Centers as detailed in the MATC Educational Master Plan for Remedial and Basic Education, Chapter VII.

4. Develop an appropriate instructional support system to provide adequate faculty, staff and curriculum for entrance requirements, including in-service training for faculty and staff.

5. Test all applicants for the establishment and maintenance of Associate Degree and Adult-Vocational programs for Reading, Writing and Mathematics skills levels.

6. Identify and recruit appropriate part time faculty to provide needed basic skills/remedial instruction.

7. Identify and, if necessary, develop and provide in-service training, retraining or reassignment to those regular faculty who could provide basic skills and remediation instruction.

8. Complete registration of students whose test scores are at or above the minimum requirements. Faculty would be utilized to fulfill this advisor role.

9. Orient and assign those students whose test scores are below the minimum requirements into the appropriate skill-building classes. This should be conducted by competently trained counselors.

10. Establish an entrance requirement program with a structure that includes an Admissions and Assessment Phase, an Advisement and Counseling Phase and a Competency Monitoring Phase.

11. Develop an instructional support system to provide an Academic Alert Support System, Supplemental Educational Support, Standards of Academic Progress and a Student Tracking System. This instructional support system must be integrated with the mangement information system presently under development.

12. Construct the entrance requirement program by utilizing all appropriate resources for the Student Services Division, Instructional Services, each Instructional Division and administrative support.

13. Formulate a counseling and advising component to provide the physically handicapped with information regarding physical limitations unique to certain occupational programs.

14. Implement, as part of the counseling function, a system to direct students to needed rehabilitive or emotional maintenance support services.

The activities to take place during the third phase included:

Phase III

1. Begin the Academic Standards and Progress System for both continuing and new entry students. This sytem should include an academic alert and an academic early warning system for students.

2. Implement the supplemental educational services support system.

3. Develop and assign faculty advisory roles with emphasis on program selection, academic progress and remediation referral.

4. Design and implement an evaluation procedure to assure program objectives are clearly defined and measurable through such methods as program evaluation, instructor evaluation and curriculum currency analysis.

5. Examine the feasibility of developing short term, occupational skills intensive programs or courses to serve the EMR student.

This approach increases the likelihood that students development will be handled in a systematic manner. Student identification and follow up is more effective and efficient while the potential for controlling and maintaining academic offerings and student scheduling and progress will increase.

Conclusion

The three established programmatic functions of the community college are: (1) college or university parallel programs leading to an associate in arts degree; (2) occupational programs leading to an associate in applied science degree; and (3) continuing education or community service programs.

However, if the community college is to continue to realize its emphasis on equity and access then it must continue to recognize its obligation to provide basic skills training for the educationally disadvantaged. It must ensure that the "open door" does not simply mean access to the institution but the creation of conditions under which all students can learn. The competency testing and placement program inaugurates a new opportunity for all students at the Milwaukee Area Technical College to succeed in their curriculum of choice.

COURSE DESCRIPTIONS

Department	Course
8-01 English	151 - COMMUNICATION SKILLS 1 - 3 credits Designed to improve the student's speaking, writing and listening skills through practical reading, writing and speaking assignments. Particular emphasis is placed on the writing of sentences, paragraphs and essays and the construction and presentation of short speeches. 152 - COMMUNICATION SKILLS 2 - 3 credits A continuation of the process of improving the student's speaking, writing, listening and reading skills. Emphasis is placed on practical application of communication skills through group discussion, persuasion, business writing, the mass media and literature. Prerequisites: Eng. 151 or Eng. 201 and Speech 201. 191 - BASIC WRITING SKILLS - 3 credits The major objective of Eng. 191 is to develop the student's abilities to express themselves in English. Students write original sentences and paragraphs and work on pre-writing and basic grammar exercises to build their composing and copy-editing skills.
8-04 Mathematics	151 - TECHNICAL MATH 1 - 4 credits The student masters the basic mathematics topics needed by technicians. The course includes these topics: signed numbers, operations with fractions, non-fractional and fractional equations, graphing, formula rearrangement, systems of two equations, formula derivation, calculator operations, percent, ratio and proportion, scientific notation, formula evaluation, metric system, areas and volumes, right triangle trigonometry and logarithms. Prerequisite: One year of high school algebra. 190 - MATHEMATICS WORKSHOP - 3 credits Designed to accommodate students who have minimal backgrounds in mathematics and need mastery of arithmetic skills or who need additional mathematics before entering Math 191. 191 - BEGINNING ALGEBRA - 3 credits Designed to develop a mastery of elementary algebra and to ease math anxiety, this course includes the following topics: basic concepts, numbers, algebraic expressions, equations, graphing and applications. Completion of Math 191 and 192 is considered equivalent to Math 151.

Department	Course
8-04 Mathematics	192 - CALCULATION AND CALCULATING DEVICES - 3 credits This is usually taken as a continuation of Math 191. The course includes the following topics: number system, elementary calculator operations, percent, ratio, proportion, powers of ten, scientific notation, formula evaluation, metric system, areas and volumes, right triangle trigonometry, logarithms, measurement concepts, estimation and the use of calculating devices. Students who complete both Math 191 and 192 will have satisfied the Math 151 requirement. Prerequisite: Math 191.
8-06 Natural Science	103 - ANATOMY AND PHYSIOLOGY - 5 credits A general course which presents the normal structural and functional activities of the human body. Each system of the body is structurally and functionally discussed. Structural anomalies and functional dysfunctions are discussed briefly. Laboratory studies of the systems are aided by the use of models and skeletons and by student dissections of cats and other animal specimens. Prerequisites: One year of either high school biology or high school general science. 110 - BASIC CHEMISTRY - 4 credits This course is designed to provide the basic chemistry concepts and skills needed to be successful in a college chemistry course. It is intended for students who lack the prerequisites or feel inadequately prepared for college chemistry. 111 - INTRODUCTORY BIOCHEMISTRY - 3 credits This course covers the topics of equilibrium, osmosis, pH, ionization, selected topics in organic chemistry and the application of these to fundamental areas of biochemistry. The course is primarily intended for people entering health occupations. Prerequiste: NatSci 110 or two semesters of high school chemistry. 136 - GENERAL BIOLOGY - 5 credits Plants and animals are investigated, beginning with the simplest and progressing to the more complex. Life cycles, structures and ecological niches are some of the topics covered. The student will have the opportunity to participate in some scientific research. Recommended as a first course.

Department	Course
8-06 Natural Science	191 - BASIC PHYSICS 1 - 4 credits The course is designed to provide the basic physics concepts necessary for a student to be successful in a technical program or a college physics course. It is intended to stress basic concepts and methods of solving related problems using simple algebra and arithmetic. Topics covered include measurement, motion, work, power, machines and properties of matter. Lab work is related to the concepts being studied and utilizes various methods and tools of measurement. 192 - BASIC PHYSICS 2 - 4 credits Basic concepts and methods of solving their related problems are stressed to prepare students for technical programs or college physics. Topics covered include heat, electricity and light. Lab work is related to the concepts being studied and provides for actual measurement and use of various measurement devices. Prerequisite: NatSci 191 or consent of instructor.
8-08 Reading	191 - READING AND STUDY TECHNIQUES 1 - 3 credits Emphasis is placed on building vocabulary to a post-secondary level. Students receive instructions in the fundamentals of word attack through analysis and context clue identification. General interest, adult-level materials are used to improve reading comprehension. This course supports programs leading to the degree in Associate in Applied Science. Prerequisite: Minimum seventh grade reading ability as determined by standardized test. 192 - READING AND STUDY TECHNIQUES 2 - 3 credits This course is designed to improve the textbook reading and study skills of post-high school students. Study skills of listening, reading, notetaking and library research are taught. Basic word attack skills and vocabulary building are reviewed. Efficient use of time is emphasized. This course supports programs leading to the degree of Associate in Applied Science. Prerequisite: Read 191 or minimum ninth grade reading ability as determined by standardized test. 102 - ADVANCED READING AND STUDY SKILLS - 4 credits Emphasis is placed on reading techniques necessary for studying college textbooks. Practice is included in listening, in lecture notetaking and in vocabulary development. Prerequisite: Minimum eleventh grade reading level as determined by standardized test; or consent of instructor.

Department	Course
8-09 Social Science	110 - THE AMERICAN ECONOMY - 3 credits

A general introduction to major institutions and principles which underlie our contemporary American economic system. The course is designed both to serve the general student and as an introduction to Soc Sci 211 and 212. Topics considered are: the nature of economics and economic systems, demand and supply, the measurement of economic performance, government in a free enterprise system, problems regarding business and labor organizations and economic growth and development.

151 - PSYCHOLOGY OF HUMAN RELATIONS - 3 credits

A study of psychological principles that will be of assistance in the understanding of interpersonal relations in the family and in the work situation. Motivation, emotion, learning, personality and mental hygiene are among topics considered with reference to effective individual and group behavior.

153 - AMERICAN INSTITUTIONS - 3 credits

A survey of basic human institutions in the United States: the family, education, government, industrialized society and ideology. Assistance is given in the development of a rational and constructive approach to contemporary problems relative to those institutions.